# EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L1 | 4065 | (porous or pores or microchannel or (micro adj channel)) same (amplif$ or pcr or (polymerase adj chain adj reaction)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/06/05 19:48 |
| L2 | 227 | (porous or pores or microchannel or (micro adj channel)) same (amplif$ or pcr or (polymerase adj chain adj reaction))same immobil$ | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/06/05 19:52 |
| L3 | 1169548 | @rlad<"20020902" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/06/05 19:52 |
| L4 | 112 | l2 and l3 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/06/05 19:52 |

6/5/07

Serial No. 10/526,261

Please scan these and index them as

"Examiner Search Notes"

Thank you.

James Martinell
Primary Examiner 1634

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

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NEWS 2 JAN 08 CHEMLIST enhanced with New Zealand Inventory of Chemicals
NEWS 3 JAN 16 CA/CAplus Company Name Thesaurus enhanced and reloaded
NEWS 4 JAN 16 IPC version 2007.01 thesaurus available on STN
NEWS 5 JAN 16 WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
NEWS 6 JAN 22 CA/CAplus updated with revised CAS roles
NEWS 7 JAN 22 CA/CAplus enhanced with patent applications from India
NEWS 8 JAN 29 PHAR reloaded with new search and display fields
NEWS 9 JAN 29 CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS 10 FEB 15 PATDPASPC enhanced with Drug Approval numbers
NEWS 11 FEB 15 RUSSIAPAT enhanced with pre-1994 records
NEWS 12 FEB 23 KOREAPAT enhanced with IPC 8 features and functionality
NEWS 13 FEB 26 MEDLINE reloaded with enhancements
NEWS 14 FEB 26 EMBASE enhanced with Clinical Trial Number field
NEWS 15 FEB 26 TOXCENTER enhanced with reloaded MEDLINE
NEWS 16 FEB 26 IFICDB/IFIPAT/IFIUDB reloaded with enhancements
NEWS 17 FEB 26 CAS Registry Number crossover limit increased from 10,000 to 300,000 in multiple databases
NEWS 18 MAR 15 WPIDS/WPIX enhanced with new FRAGHITSTR display format
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NEWS 22 MAR 30 RDISCLOSURE reloaded with enhancements
NEWS 23 APR 02 JICST-EPLUS removed from database clusters and STN
NEWS 24 APR 30 GENBANK reloaded and enhanced with Genome Project ID field
NEWS 25 APR 30 CHEMCATS enhanced with 1.2 million new records
NEWS 26 APR 30 CA/CAplus enhanced with 1870-1889 U.S. patent records
NEWS 27 APR 30 INPADOC replaced by INPADOCDB on STN
NEWS 28 MAY 01 New CAS web site launched
NEWS 29 MAY 08 CA/CAplus Indian patent publication number format defined
NEWS 30 MAY 14 RDISCLOSURE on STN Easy enhanced with new search and display fields
NEWS 31 MAY 21 BIOSIS reloaded and enhanced with archival data
NEWS 32 MAY 21 TOXCENTER enhanced with BIOSIS reload
NEWS 33 MAY 21 CA/CAplus enhanced with additional kind codes for German patents
NEWS 34 MAY 22 CA/CAplus enhanced with IPC reclassification in Japanese patents

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COST IN U.S. DOLLARS SINCE FILE
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FULL ESTIMATED COST 0.42 0.42

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FILE COVERS 1907 - 5 Jun 2007 VOL 146 ISS 24
FILE LAST UPDATED: 4 Jun 2007 (20070604/ED)

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=> s ((porous or pores or microchannel# or (micro(w)channel#)) and (amplif or pcr or (polymerase(w)chain (w)reaction#)) and immobil?)/bi,ab
OR IS NOT A RECOGNIZED COMMAND
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6/5/07 L

"HELP COMMANDS" at an arrow prompt (=>).

=> s (porous or pores or microchannel# or (micro(w)channel#))/bi,ab 240243 POROUS/BI
198072 POROUS/AB 82968 PORES/BI
79543 PORES/AB 7724 MICROCHANNEL#/BI
6818 MICROCHANNEL#/AB 170666 MICRO/BI
106662 MICRO/AB 365497 CHANNEL#/BI
332978 CHANNEL#/AB 1455 MICRO(W)CHANNEL#
L1 306749 (POROUS OR PORES OR MICROCHANNEL# OR (MICRO(W)CHANNEL#))/BI,AB

=> s (amplif or pcr or (polymerase(w)chain(w)reaction#))/bi,ab
OR IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s (amplif? or pcr or (polymerase(w)chain(w)reaction#))/bi,ab
206782 AMPLIF?/BI 186083 AMPLIF?/AB
217653 PCR/BI 195651 PCR/AB 200686 POLYMERASE/BI 142279 POLYMERASE/AB
717300 CHAIN/BI 572371 CHAIN/AB
4080909 REACTION#/BI 2422868 REACTION#/AB
135885 POLYMERASE(W)CHAIN(W)REACTION#
L2 382996 (AMPLIF? OR PCR OR (POLYMERASE(W)CHAIN(W)REACTION#))/BI,AB

=> s immobil?/bi,ab 148664 IMMOBIL?/BI 125286 IMMOBIL?/AB
L3 148664 IMMOBIL?/BI,AB

=> s l1 and l2
L4 1134 L1 AND L2

=> s l3 and l4
L5 98 L3 AND L4

=> s l5 not 2007/py 582957 2007/PY
L6 86 L5 NOT 2007/PY

=> s l6 not 2006/py 1436595 2006/PY
L7 71 L6 NOT 2006/PY

=> s l8 not 2005/py
L8 NOT FOUND
The L-number entered could not be found. To see the definition of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> s l7 not 2005/py 1395705 2005/PY
L8 49 L7 NOT 2005/PY

=> s l8 not 2004/py 1326147 2004/PY
L9 36 L8 NOT 2004/PY

=> s l9 not 2003/py 1263947 2003/PY
L10 23 L9 NOT 2003/PY

=> d his
(FILE 'HOME' ENTERED AT 20:10:44 ON 05 JUN 2007)
FILE 'CAPLUS' ENTERED AT 20:11:38 ON 05 JUN 2007
L1 306749 S (POROUS OR PORES OR MICROCHANNEL# OR (MICRO(W)CHANNEL#))/BI,A
L2 382996 S (AMPLIF? OR PCR OR (POLYMERASE(W)CHAIN(W)REACTION#))/BI,AB
L3 148664 S IMMOBIL?/BI,AB
L4 1134 S L1 AND L2
L5 98 S L3 AND L4
L6 86 S L5 NOT 2007/PY
L7 71 S L6 NOT 2006/PY
L8 49 S L7 NOT 2005/PY
L9 36 S L8 NOT 2004/PY
L10 23 S L9 NOT 2003/PY

=> d l10 1-23 bib ab

L10 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:359325 CAPLUS <<LOGINID::20070605>>
DN 140:38104
TI Flow-through polyphenol sensor based on tyrosinase-***immobilized*** carbon felt
AU Hasebe, Yasushi; Kobayashi, Takashi; Uchiyama, Shunichi
CS Department Applied Chemistry, Faculty of Engineering, Saitama Institute of Technology, Saitama, 369-0293, Japan
SO Chemical Sensors (2002), 18(Suppl. A), 130-132 CODEN: KAGSEU
PB Denki Kagakkai Kagaku Sensa Kenkyukai
DT Journal
LA Japanese
AB Tyrosinase (Tyr) and electron transfer mediator (thionine, TN) were co- ***immobilized*** at the surface of ***porous*** carbon felt electrode. Tyr and TN co-***immobilized*** CF (Tyr-TN-CF) was used as flow-through amperometric detector for catechol and phenolic compds. Enzymically produced o-quinone is reconverted to catechol at the CF surface by TN-assisted electrocatalytic redn. ***Amplified*** peak currents based on the analyte recycling driven by enzymic oxidn. and TN-assisted electrochem. redn. is monitored at applied potential of - 50 mV (vs. Ag/AgCl). Among ten kinds of monophenol and o-diphenol compds., higher sensitivity was obtained for catechol, p-cresol. Under the operational conditions (applied potential: -50 mV, flow rate: 1.3 mL/min, pH 7.0), the calibration curves of catechol and p-cresol by Tyr-TN-CF is linear up to 10 .mu. M and with detection limit (S/N = 3) of 0.05 .mu. M and 0.14 .mu. M, resp. No loss in the response could be obsd. after 40 injections of catechol (RSD < 2 %). The sensitivity was increased by TN-assisted electrochem. redn. as compared with those by Tyr-CF without TN in which o-quinones were directly reduced at the CF surface.

L10 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:667273 CAPLUS <<LOGINID::20070605>>
DN 137:303957
TI Bioelectronic sniffer device for trimethylamine vapor using flavin containing monooxygenase
AU Mitsubayashi, Kohji; Hashimoto, Yuki
CS Department of Human and Information Science, School of Information Technology and Electronics, Tokai University, Kanagawa, Japan
SO IEEE Sensors Journal (2002), 2(3), 133-139 CODEN: ISJEAZ; ISSN: 1530-437X
PB Institute of Electrical and Electronics Engineers
DT Journal
LA English
AB A bioelectronic sniffer device for trimethylamine (TMA) in the gas phase fish-odor substance was constructed using a flavin-contg. monooxygenase 3 (FMO3, one of xenobiotic metabolizing enzymes) and a reaction unit with both gas and liq. cells sepd. by a ***porous*** poly(tetrafluoroethylene) diaphragm membrane (pore size: 30-60 .mu.m, thickness: 0.20 mm). A substrate regeneration cycle was applied to the FMO3

***immobilized*** device to ***amplify*** the output signal by coupling the monooxygenase with a reducing reagent system of ascorbic acid (AsA) in phosphate buffer. The sniffer device with 10.0 mmol/l AsA could be used to measure TMA vapor from 0.52 to 105 ppm; this covers the max. permissible concn. in the work place (5.0 ppm of time weighted av. concn.) and the sensing level-5 of smell in humans (3.0 ppm). Since the application of the substrate regeneration cycle was possibly successful, it improved the sensitivity of the EMO3 ***immobilized*** device. The sniffer device possessed high selectivity for TMA being attributable to the FMO3 substrate specificity, continuous measurability, and good reproducibility in the repeatedly measurements (coeff. of variation = 2.41%, n = 10).
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:638197 CAPLUS <<LOGINID::20070605>>
DN 137:180749
TI Detection of genetic polymorphisms using generic molecular beacon probes labeled with fluoresce dye-conjugated metallic or semiconductor nanoparticles
IN Phillips, Vince; Watson, Andrew R.; Wong, Edith
PA USA
SO U.S. Pat. Appl. Publ., 27 pp. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI US 2002115082 A1 20020822 US 2001-945379 20010831
PRAI US 2000-230186P P 20000901
AB Methods, compns. and articles of manuf. for assaying a sample for an ***amplification*** product from a target polynucleotide are provided. An ***amplification*** reaction is used to produce the ***amplification*** product from the target polynucleotide so that it can be used to indirectly assay the sample for the target polynucleotide. A sample suspected of contg. the target polynucleotide is contacted with first and second primers to ***amplify*** the target polynucleotide; the first primer comprises a tag sequence, the complement of which is formed on the opposite strand during ***amplification*** and is referred to as a capture sequence. That opposite strand is referred to as a second primer extension product or an ***amplification*** product. A generic probe polynucleotide is provided that is a mol. beacon and can bind to the capture sequence to form an ***amplification*** product detection complex. The mol. beacon probes can be labeled with fluoresce dye or metallic or semiconductor nanoparticles to increase the sensibility and specificity in the detection and enable multiplexing. Methods of detecting the ***amplification*** product detection complex thus produced are also provided, as are ***amplification*** product assay arrays, along with methods of forming the same. The methods are particularly useful in multiplex settings where a plurality of target polynucleotides are to be assayed. Kits comprising reagents for performing such methods are also provided.

L10 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:570662 CAPLUS <<LOGINID::20070605>>
DN 137:89435
TI Methods for covalent attachment of oligonucleotide probes to glass in microarrays
IN Beattie, Kenneth Loren
PA USA
SO U.S., 19 pp., Cont.-in-part of U.S. 6,156,502. CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI US 6426183 B1 20020730 US 1998-134365 19980814 US 6156502 A 20001205 US 1996-769651 19961219
PRAI US 1995-9027P P 19951221 US 1996-769651 A2 19961219
AB The present invention provides an improved method for stably attaching a desired compd. to a silaceous or silane-contg. substrate, in particular a glass, ***porous*** silica, or oxidized silicon. This method in certain embodiments provides improvements over conventional methods for attaching desired compds. to silaceous or silane-contg. substrate, e.g., glass, ***porous*** silica, or oxidized silicon materials, e.g. obviating the need for derivatization (e.g., epoxysilane derivatization) prior to attachment. More particularly, the present invention provides a method for stably attaching a desired compd. comprising at least one amine and hydroxyl group (e.g., an aminopropanol contg. compd.), to a silaceous or silane-contg. substrate, preferably underivatized (plain) glass, a ***porous*** silica, or oxidized silicon substance. The subject method is esp. useful for the attachment of nucleic acid sequences, e.g., oligonucleotide or ***PCR*** generated DNA fragments, to glass or other silane-contg. substrates to which is stably attached to a desired compd., is useful in any application wherein a compd. ***immobilized*** to a substrate, e.g., a glass, is useful. Such applications include, by way of example, hybridization anal., DNA purifn., immunoassay, and immunopurifn. methods.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:417231 CAPLUS <<LOGINID::20070605>>
DN 137:212833
TI Entrapment of glucose oxidase in non- ***porous*** poly(vinyl chloride)
AU Reddy, Subrayal M.; Vadgama, Pankaj
CS Centre for Clinical Science and Measurement, School of Biomedical and Life Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK
SO Analytica Chimica Acta (2002), 461(1), 57-64 CODEN: ACACAM; ISSN: 0003-2670
PB Elsevier Science B.V.
DT Journal
LA English
AB We have used solvent casting techniques to ***immobilize*** glucose oxidase (GOD) within unplasticised and plasticized poly(vinyl chloride) (PVC) matrixes. The plasticizers studied were the cationic surfactant, tricaprylmethylammonium chloride (Aliquat 336s), the anionic surfactant bis(2-ethylhexyl) hydrogenphosphate (BEP) and the lipid, isopropylmyristate (IPM). The activity of the enzyme-membrane was tested by amperometric electrode. Changes in enzyme-membrane electrode response are rationalized on the basis of membrane permselective properties. The Aliquat and IPM modified PVC membranes gave ***amplified*** signals due to better retention and subsequent concn. of the H2O2

signal species. Effectively, less was being lost to the bulk soln. In the case of the BEP-modified membrane, while there was a linear step change in response up to 50 mM, at higher concns., responses did not reach steady-state; they were characterized by an upward drift in response of 0.050 nA/min. This characteristic is thought to be due to a build up of gluconic acid resulting in a pH redn. in the membrane microenvironment and hydrogen bonding between neighboring BEP mols. Under these conditions, we have previously shown that the membrane permeability to hydrophilic species is attenuated and it is tentatively suggested that the upward drift due to the build up of H2O2 on the electrode side with less permeating through the acidified membrane into bulk soln. The results were compared against using variously plasticized PVC (but no enzyme entrapped) as an outer membrane of a classical dual-membrane glucose enzyme electrode construct. In the latter case, the enzyme was chem. crosslinked between the membranes using glutaraldehyde.
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:257250 CAPLUS <<LOGINID::20070605>>
DN 136:382382
TI Liposomes as signal ***amplification*** reagents for bioassays in microfluidic channels
AU Locascio, Laurie E.; Hong, Jennifer S.; Gaitan, Michael
CS Analytical Chemistry Division, National Institute of Standards and Technology, Gaithersburg, MD, 20899-8394, USA
SO Electrophoresis (2002), 23(5), 799-804 CODEN: ELCTDN; ISSN: 0173-0835
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
AB Liposomes with encapsulated carboxyfluorescein were used in an affinity-based assay to provide signal ***amplification*** for small-vol. fluorescence measurements. Microfluidic channels were fabricated by imprinting in a plastic substrate material, poly(ethylene terephthalate glycol) (PETG), using a silicon template imprinting tool. Streptavidin was linked to the surface through biotinylated-protein for effective ***immobilization*** with minimal nonspecific adsorption of the liposome reagent. Lipids derivatized with biotin were incorporated into the liposome membrane to make the liposomes reactive for affinity assays. Specific binding of the liposomes to ***microchannel*** walls, dependence of binding on incubation time, and nonspecific adsorption of the liposome reagent were evaluated. The results of a competitive assay employing liposomes in the ***microchannels*** are presented.
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:257241 CAPLUS <<LOGINID::20070605>>
DN 137:104348
TI Toward a microchip-based solid-phase extraction method for isolation of nucleic acids
AU Wolfe, Kelley A.; Breadmore, Michael C.; Ferrance, Jerome P.; Power, Mary E.; Conroy, John F.; Norris, Pamela M.; Landers, James P.
CS Department of Chemistry, University of Virginia, Charlottesville, VA, 22904, USA
SO Electrophoresis (2002), 23(5), 727-733 CODEN: ELCTDN; ISSN: 0173-0835
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
AB A silica-based solid-phase extn. system suitable for incorporation into a microchip platform (.mu.-total anal. system; .mu.-TAS) would find utility in a variety of genetic anal. protocols, including DNA sequencing. The extn. procedure utilized is based on adsorption of the DNA onto bare silica. The procedure involves three steps: (i) DNA adsorption in the presence of a chaotropic salt, (ii) removal of contaminants with an alc./water soln., and (iii) elution of the adsorbed DNA in a small vol. of buffer suitable for ***polymerase*** ***chain*** ***reaction*** ( ***PCR*** ) ***amplification*** . Multiple approaches for incorporation of this protocol into a microchip were examd. with regard to extn. efficiency, reproducibility, stability, and the potential to provide ***PCR*** - ***amplifiable*** DNA. These included packing ***microchannels*** with silica beads only, generating a continuous silica network via sol-gel chem., and combinations of these. The optimal approach was found to involve ***immobilizing*** silica beads packed into the channel using a sol-gel network. This method allowed for successful extn. and elution of nanogram quantities of DNA in less than 25 min, with the DNA obtained in the elution buffer fraction. Evaluation of the eluted DNA indicated that it was of suitable quality for subsequent ***amplification*** by ***PCR*** .
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:676893 CAPLUS <<LOGINID::20070605>>
DN 135:223743
TI Apparatus for thermocycling reaction mixtures in lateral flow device
IN Chow, Timothy; Brown, Timothy Allan
PA Imagene Technology, Inc., USA
SO PCT Int. Appl., 47 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- --------
PI WO 2001066688 A1 20010913 WO 2001-US7326 20010307 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG AU 2001043487 A5 20010917 AU 2001-43487 20010307 US 2001036634 A1 20011101 US 2001-801434 20010307
PRAI US 2000-187919P P 20000308 WO 2001-US7326 W 20010307
AB The title app. is disclosed. The app. comprises (a) a lateral flow device having proximal and distal ends, a sample reservoir at the proximal end, a wicking pad at the distal end, and a ***porous*** membrane locating between and contacting the sample reservoir and wicking pad, and (b) an instrument for receiving the lateral flow device comprising a temp. block comprising a plurality of stationary thermal zones, said temp. block arranged to fit between the sample reservoir and wicking

pad and to be in contact with the ***porous*** membrane. This app. may be used in ***PCR*** and in concn. and detection of the amplicons. In this case, the proximal end contains an ***amplification*** zone and the distal end a detection zone.
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:472738 CAPLUS <<LOGINID::20070605>>
DN 135:58184
TI Compound comprising a peptide moiety and an organo-silane moiety for ***immobilized*** reagent preparation and kit
IN Huber, Martin; Schmidt, Wolfgang; Mueller, Manfred; Hiller, Reinhard
PA Lion Bioscience A.-G., Germany
SO PCT Int. Appl., 31 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI WO 2001046213 A2 20010628 WO 2000-EP13099 20001221 WO 2001046213 A3 20020510 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, MD RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG EP 1111068 A1 20010627 EP 1999-125484 19991221 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO EP 1110967 A1 20010627 EP 1999-125485 19991221 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO EP 1252172 A2 20021030 EP 2000-993511 20001221 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
PRAI EP 1999-125484 A 19991221 EP 1999-125485 A 19991221 US 2000-211209P P 20000613 US 2000-211217P P 20000613 WO 2000-EP13099 W 20001221
OS MARPAT 135:58184
AB The present invention concerns a compd. comprising a biomol. moiety and an organo-silane moiety, as well as a process for the synthesis thereof. The invention also concerns a support comprising the biomol. moiety with the organo-silane moiety, wherein the biomol. moiety is attached to the support through the organo-silane moiety. The invention also concerns a process for a nucleic acid synthesis reaction making use of the biomol. moiety with the organo-silane moiety as well as uses of the novel compd. The compd. is useful in nucleic acid hybridization assays, in immunoassays, and as a target for enzymes. The invention in addn. concerns a kit comprising the compd. comprising a biomol. moiety and an organo-silane moiety. Bovine serum albumin was reacted with EDC and APTS and attached to glass slides.

L10 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:207520 CAPLUS <<LOGINID::20070605>>
DN 135:30714
TI Molecular design, expression, and affinity ***immobilization*** of a trypsin-streptavidin fusion protein
AU Clare, D. A.; Valentine, V. W.; Catignani, G. L.; Swaisgood, H. E.
CS Department of Food Science, Southeast Dairy Foods Research Center, North Carolina State University, Raleigh, NC, 27695-7624, USA
SO Enzyme and Microbial Technology (2001), 28(6), 483-491 CODEN: EMTED2; ISSN: 0141-0229
PB Elsevier Science Ireland Ltd.
DT Journal
LA English
AB A trypsin-streptavidin (TRYPSA) fusion protein was designed and its expression in Escherichia coli was evaluated. The streptavidin gene was ***PCR*** modified and cloned into the pET expression vector. The trypsin gene was subsequently inserted into this plasmid, thus generating a colinear fusion of trypsin and streptavidin genes (pTRYPSA). This engineering strategy was verified, and TRYPSA was expressed after IPTG induction using the E. coli strains, BL21(DE3) and BL21(DE3)pLysS. Std. protein fractions of the cell lysate were prepd. and trypsin activity was primarily detected in the periplasmic and inclusion body fractions. Immunoblotting showed a single Western-pos. band exhibiting a mol. wt. of 39,000 Da. A biotinylated ***porous*** glass affinity matrix was prepd. and selective adsorption resulted in a one-step purifn. and ***immobilization*** of TRYPSA from crude cell lysate. Trypsin activity was verified using a synthetic substrate. This enzyme bioreactor should serve as an excellent prototype for future studies that will examine the effect of limited proteolysis on functional characteristics of milk proteins, including gelling, emulsifying and foaming properties.
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:748549 CAPLUS <<LOGINID::20070605>>
DN 134:290841
TI ***PCR*** ***amplification*** on a microarray of gel-***immobilized*** oligonucleotides: detection of bacterial toxin- and drug-resistant genes and their mutations
AU Strizhkov, Boris N.; Drobyshev, Alexei L.; Mikhailovich, Vladimir M.; Mirzabekov, Andrei D.
CS Engelhardt Institute of Molecular Biology, Russian Academy of Sciences, Moscow, Russia
SO BioTechniques (2000), 29(4), 844-846,848,850-852,854,856-857 CODEN: BTNQDO; ISSN: 0736-6205
PB Eaton Publishing Co.
DT Journal
LA English
AB ***PCR*** ***amplification*** on a microarray of gel- ***immobilized*** primers (microchip) has been developed. One of a pair of ***PCR*** primers was ***immobilized*** inside a sep. microchip polyacrylamide ***porous*** gel pad of 0.1 .times. 0.1 .times. 0.02 (or 0.04) .mu.m in size and 0.2 (or 0.4) nL in vol. The ***amplification*** was carried out simultaneously both in soln. covering the microchip array and inside gel pads. Each gel pad contained the ***immobilized*** forward primers, while the fluorescently labeled reverse primers, as well as all components of the ***amplification*** reaction, diffused into the gel pads from the soln. To increase the ***amplification*** efficiency, the forward primers were also added into the soln. The kinetics of ***amplification*** was measured in real time in parallel for all gel pads with a

fluorescent microscope equipped with a charge-coupled device (CCD) camera. The accuracy of the ***amplification*** was assessed by using the melting curves obtained for the duplexes formed by the labeled ***amplification*** product and the gel- ***immobilized*** primers during the ***amplification*** process; alternatively, the duplexes were produced by hybridization of the extended ***immobilized*** primers with labeled oligonucleotide probes. The on-chip ***amplification*** was applied to detect the anthrax toxin genes and the plasmid-borne .beta.-lactamase gene responsible for bacterial ampicillin resistance. The allele-specific type of ***PCR*** ***amplification*** was used to identify the Shiga toxin gene and discriminate it from the Shiga-like one. The genomic mutations responsible for rifampicin resistance of the Mycobacterium tuberculosis strains were detected by the same type of ***PCR*** ***amplification*** of the rpoB gene fragment isolated from sputum of tuberculosis patients. The on-chip ***PCR*** ***amplification*** has been shown to be a rapid, inexpensive and powerful tool to test genes responsible for bacterial toxin prodn. and drug resistance, as well as to reveal point nucleotide mutations.
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:707326 CAPLUS <<LOGINID::20070605>>
DN 133:262273
TI Method for DNA sequencing by using ***immobilized*** DNA arrays
IN Klenerman, David
PA Solexa Ltd., UK
SO PCT Int. Appl., 21 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI WO 2000058507 A1 20001005 WO 2000-GB1222 20000330 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI GB 1999-7344 A 19990330 GB 1999-19603 A 19990818
AB The present invention provides a method for detg. the sequence of a polynucleotide by using a device comprising an array of target DNA mol. ***immobilized*** on a solid surface, wherein the array has a surface d. which allows each DNA mol. to be individually resolved by optical microscopy. The sequence is detd. by generating the complement of the polynucleotide using the polymerase reaction to extend a suitable primer, and characterizing the successive incorporation of bases that generate the complement. The method requires the sequential addn. of a compn. comprising the different bases A, T, G and C, a minor proportion of which are detectably-labeled.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:536067 CAPLUS <<LOGINID::20070605>>
DN 131:269088
TI ***Amplification*** of amperometric biosensor responses by electrochemical substrate recycling. Part II. Experimental study of the catechol-polyphenol oxidase system ***immobilized*** in a laponite clay matrix
AU Coche-Guerente, L.; Desprez, V.; Labbe, P.; Therias, S.
CS Laboratoire d'Electrochimie Organique et de Photochimie Redox, UMR 5630, Universite Joseph Fourier Grenoble 1-CNRS, Grenoble, 38041, Fr.
SO Journal of Electroanalytical Chemistry (1999), 470(1), 61-69 CODEN: JECHES
PB Elsevier Science S.A.
DT Journal
LA English
AB Amperometric catechol biosensors can be constructed by drying onto the surface of a glassy carbon rotating-disk electrode an aq. sol of synthetic laponite clay contg. controlled amts. of polyphenol oxidase (PPO) and polycationic oligosilasesquioxane additive. The procedure allows the electrode surface to be coated with composite enzyme-laponite clay films exhibiting improved adhesion, enhanced mech. strength and high enzymic activity. Electrodes prepd. in this manner can be used to detect catechol in the range 0.5 nM to 10 .mu.M. The low detection limit of 0.5 nM results from an efficient signal ***amplification*** as a consequence of the electrochem. recycling of catechol substrate. An intrinsic ***amplification*** factor of 3.35 has been measured. The obsd. responses from such an electrode as a function of applied potential, enzyme activity and electrode rotation rate are in excellent agreement with theory. From a comparison of the exptl. results with theory, we are able to characterize diffusion and enzyme kinetics in the enzymic layer. The results are consistent with a microporous structure of the enzymic layer in which ***microchannels*** are distributed. Diffusion of catechol substrate and orthoquinone product occurs within the ***microchannels*** filled by electrolyte and can be described using a pinhole model. The study shows that only a fraction of PPO, the one which is entrapped in open micropores with interconnected ***microchannels*** , is accessible to catechol substrate while keeping its full enzymic activity. The other fraction should correspond to inaccessible proteins enclosed within the walls of ***microchannels*** .
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:806816 CAPLUS <<LOGINID::20070605>>
DN 130:48291
TI method for highly sensitive nucleic acid detection with Imprint primers for single copy detection
IN Creighton, Steven; Gold, Larry
PA Nexstar Pharmaceuticals, Inc., USA
SO PCT Int. Appl., 54 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI WO 9855653 A1 19981210 WO 1998-US11457 19980603 W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO,

RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG AU 9878136 A 19981221 AU 1998-78136 19980603
PRAI US 1997-48886P P 19970606 US 1998-27107 A 19980220 WO 1998-US11457 W 19980603
AB A novel method for the highly selective detection of a specific target nucleic acid sequence in a sample compn. that may contain a large no. of nucleic acids. A copy of a target nucleic acid sequence is first formed by extension from a first primer complementary to part of the target sequence. A hybrid is then formed between this copy of the target nucleic acid sequence and a second primer, and the detection of the target nucleic acid sequence is based on the formation of pyrophosphate and/or dNMP. The embodiments all involve the establishment of Idling conditions using a hybrid formed between the target nucleic acid and one or more probe primer. The net result of the Idling phenomenon is the prodn. of dNMP and PPi. Imprint primers are described that synthesize a copy, or Imprint, of the target nucleic acid that highly increase the specificity of the technique. These imprint primers are wholly or partly comprised of nuclease resistant nucleic acid residues and labeled with a group such as biotin which permits subsequent attachment to a solid support. This primer is chosen so that it hybridizes to the target nucleic acid at a position that is 3' to the location of the sequences that will later be used for Idling establishment. Trapping of Imprint and elimination of non-imprint nucleic acids is performed using avidin-coated paramagnetic beads binding to biotin. The creation of a solid phase support-bound imprint can drastically reduce the complexity of the sample. Target nucleic acid detection is indicated by PPi or NADH or ATP measured in fluormetric or electrochem. or light anal. assays. The methods have the potential to detect a single copy a target nucleic acid.
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:715956 CAPLUS <<LOGINID::20070605>>
DN 130:21321
TI Gene ***amplification*** method and device
IN Kuhara, Akira; Tashiro, Kosuke; Muta, Shigeru; Nakagawa, Yoshikazu; Oka, Motohiro
PA Dai Nippon Printing Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp. CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI JP 10290691 A 19981104 JP 1997-211694 19970806
PRAI JP 1997-34749 A 19970219
AB Disclosed are a method and a device for simultaneous ***amplification*** and purifn. of multiple genes. The device consists of 2 layers of membrane on a supporting plate: one is permissible to nucleic acids but not to cells; and the other is ***porous*** and is used for the ***immobilization*** of nucleic acids; either membrane is detachable from the other. A piece of divider prepd. by extrusion and printing is sealed on the 2-layer membrane to form multiple cells that can be used for cell culture, and gene ***amplification*** and purifn. A device comprised of the PVDF (poly(vinylidene difluoride)) membrane (0.8 .mu.m pore size) and a nylon membrane, and a 386-cell acrylic septum was prepd. and used for cultivation of Escherichia coli, and ***PCR*** - ***amplification*** of its genes.

L10 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:642091 CAPLUS <<LOGINID::20070605>>
DN 129:311675
TI Apparatus for ***amplification*** and analysis of genes and methods of using the apparatus
IN Kuhara, Tetsu; Tashiro, Kosuke; Muta, Shigeru; Nakagawa, Yoshikazu; Oka, Motohiro
PA Dai Nippon Printing Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp. CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI JP 10257887 A 19980929 JP 1996-340867 19961220
PRAI JP 1996-258357 A 19960930
AB Disclosed is an app. for genetic anal., where gene ***amplification*** , purifn., ***immobilization*** on ***porous*** membranes, and hybridization can be performed in the very same place. The app. is a plate that consists of, from the bottom, a water-proof membrane, 2 layers of ***porous*** membranes of different materials (2a, the upper layer; 2b, the lower layer), and septa on the membrane to form reaction chambers. Use of the app. was demonstrated by cultivating Escherichia coli in the chambers, infection of the E. coli with phage M13, and ***amplification*** of phage M13 at 37.degree. overnight. At the end of the culture, the water-proof membrane was peeled off and replaced with a filter paper to absorb the culture medium and thus allow E. coli and phage M13 to be trapped on layers 2a and 2b, resp. Layer 2b contg. phage M13 was then ***immobilized*** and its DNA analyzed by nucleic acid hybridization with the labeled complementary probes.

L10 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:366788 CAPLUS <<LOGINID::20070605>>
DN 129:106135
TI Monitoring specific interaction of low molecular weight biomolecules on oxidized ***porous*** silicon using ellipsometry
AU Van Noort, Danny; Welin-Klintstrom, Stefan; Arwin, Hans; Zangooie, Shahin; Lundstrom, Ingemar; Mandenius, Carl-Fredrik
CS Laboratory of Applied Physics, Department of Physics and Measurement Technology, Linkoping University, Linkoping, 58183, Swed.
SO Biosensors & Bioelectronics (1998), 13(3-4), 439-449
CODEN: BBIOE4; ISSN: 0956-5663
PB Elsevier Science Ltd.
DT Journal
LA English
AB ***Porous*** silicon dioxide surfaces have been used for monitoring the specific affinity binding of low mol. wt. mols. to streptavidin. Streptavidin was ***immobilized*** to the ***porous*** silicon dioxide surface by spontaneous adsorption at pH 7.4. Binding of biotin and an oligopeptide synthesized by means of combinatorial chem. were monitored with an in situ null ellipsometer. Measurements were also done with hydroxy-azobenzene-2-carboxylic acid and DL-6-8-thioctic acid amide. The performance of ***porous*** silicon dioxide as a potential surface in biosensor applications was compared with a planar silicon dioxide surface. ***Porous*** silicon dioxide showed a 10-fold ***amplification*** of the response compared to planar silicon dioxide. It was possible to monitor the binding of

biotin and the oligopeptide in the concn. range 2-40 .mu.M. A response time as low as 30 s was obtained for the oligopeptide at 40 .mu.M.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:42544 CAPLUS <<LOGINID::20070605>>
DN 128:98554
TI Use of a carrier material for sample processing in the detection of specific nucleic acid sequences
IN Erhardt, Christoph; Miethe, Peter
PA Abion Beteiligungs- und Verwaltungsgesellschaft Mbh, Germany
SO PCT Int. Appl., 22 pp. CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 2 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI WO 9749992 A1 19971231 WO 1997-EP3332 19970625 W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, DE, EE, GE, GH, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG AU 9734368 A 19980114 AU 1997-34368 19970625 EP 923736 A1 19990623 EP 1997-930402 19970625 R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE, IE, FI JP 2000514644 T 20001107 JP 1998-502353 19970625
PRAI DE 1996-19625211 A 19960625 WO 1997-EP3332 W 19970625
AB Methods of processing samples to prep. nucleic acids for detection of specific sequences are described. The method uses a hydrophilic carrier, suitable probes, and reporter dyes and can be adapted to a machine readable system. The carrier is hydrophilic, ***porous*** , demonstrates very low non-specific binding, forms uniform suspensions. Several layers of the material, e.g. in a column, each with binding partners for different sequences, can be used together.

L10 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1996:213623 CAPLUS <<LOGINID::20070605>>
DN 124:308679
TI ***Amplification*** of mRNA populations using aRNA generated from ***immobilized*** oligo(dT)-T7 primed cDNA
AU Eberwine, James
CS Univ. Pennsylvania Medical Center, Philadelphia, PA, USA
SO BioTechniques (1996), 20(4), 584, 586, 588, 590-1 CODEN: BTNQDO; ISSN: 0736-6205
PB Eaton
DT Journal
LA English
AB The ***amplification*** of mRNA populations from small amts. of tissue permits the characterization of the expression profile of that tissue. A few years ago the ***amplified*** antisens-RNA (aRNA) technol. was developed, which facilitates the linear ***amplification*** of mRNA populations. This technique has been successfully used to ***amplify*** the mrRNA populations of individual cells as well as those present in individual processes of neurons. A limitation of this methodol. is the difficulty in handling small amts. of mRNA and cDNA, where losses can occur in several steps of the procedure and particularly in the phenol/chloroform extn. and the ethanol pptn. steps. The availability of solid supports for ***immobilization*** of nucleic acids has been quite useful in purifying particular RNA populations. The authors have here combined the use of magnetic beads with the aRNA ***amplification*** procedure to decrease the processing time and to increase the yields in the prodn. of aRNA.

L10 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1996:202630 CAPLUS <<LOGINID::20070605>>
DN 124:265629
TI Phase-change heat regenerators: modeling and experimental studies
AU Erk, Henry F.; Dudukovic, M. P.
CS Dep. Chemical Engineering, Washington Univ., St. Louis, MO, 63130, USA
SO AIChE Journal (1996), 42(3), 791-808 CODEN: AICEAC; ISSN: 0001-1541
PB American Institute of Chemical Engineers
DT Journal
LA English
AB Modeling of and expts. with heat storage in regenerators packed with phase-change material (PCM) are discussed, as well as the second-law thermodn. efficiency for the ideal phase-change regenerator ( ***PCR*** ). An algorithm to solve the coupled partial differential equations for heat transfer and storage in the ***PCR*** on the bed scale and on the PCM scale is presented. The bed is discretized via the tanks-in-series approxn. The PCM scale is solved by orthogonal collocation applied to the equations, transformed to ***immobilize*** the melt/solid interface and eliminate the effect of spherical geometry. Parametric studies show the effects of specific dimensionless groups. A novel PCM consisting of n-octadecane retained by capillary forces in a ***porous*** silica support is used in a lab-scale ***PCR*** to verify the model. It visually changes from opaque to semi-transparent when the wax melts, thereby allowing the melt front within the bed to be tracked. Expts. with heated or cooled CO2 passing through the ***PCR*** are described. The measured outlet temp. compares qual. with model predictions. The model quant. predicts melt front movement in the first 60% of the bed. Discrepancies between the model and expts. are linked to significant heat losses.

L10 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1995:526892 CAPLUS <<LOGINID::20070605>>
DN 122:257967
TI Microplates molded with ***porous*** membrane for nucleic acid hybridization
IN Uematsu, Hiroaki; Hayashi, Satoko; Nakajima, Takashi
PA Toyo Boseki, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp. CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI JP 07051099 A 19950228 JP 1993-199644 19930811
PRAI JP 1993-199644 19930811
AB A 96-well microplate used in immunoassay is modified for detecting target nucleic acids by hybridization. Each well is molded with a cationic, ***porous*** membrane that can be used for the ***immobilization*** of nucleic acids. The bottom of the plate has space for collecting waste soln. Incubation temp. of the microplate can be adjusted through a

metal block and is suitable for ***PCR*** . The time for detecting Vibrio parahaemolyticus in a fecal sample using this modified microplate is shortened to 2 h, as compared to 6 h by conventional methods.

L10 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1991:58492 CAPLUS <<LOGINID::20070605>>
DN 114:58492
TI Bioluminescent method for the analysis of a specific sequence of DNA or RNA, and reagents and kits therefor
IN Nicolas, Jean Claude; Balaguer, Patrick; Terouanne, Beatrice; Boussioux, Anne Marie
PA Institut National de la Sante et de la Recherche Medicale (INSERM), Fr.
SO Eur. Pat. Appl., 21 pp. CODEN: EPXXDW
DT Patent
LA French
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- -------
PI EP 362042 A1 19900404 EP 1989-402618 19890925 EP 362042 B1 19930623 R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE FR 2636970 A1 19900330 FR 1988-12537 19880926 FR 2636970 B1 19911129 AT 90971 T 19930715 AT 1989-402618 19890925
PRAI FR 1988-12537 A 19880926 EP 1989-402618 A 19890925
AB The title method uses (1) a support having a ***porous*** and/or fibrous surface on which are ***immobilized*** luciferase, oxidoreductase, and a substituent capable of fixing a nucleotide sequence directly or indirectly by means of an intermediary in an affinity reaction or by specific hybridization; (2) a conjugate of (a) an enzyme capable of producing an intermediate nucleotide utilizable by the oxidoreductase in a bioluminescence system and (b) a mol. capable of affinity binding a marker on the nucleotide sequence or of hybridizing with such a sequence; and (3) an aq. soln. comprising substrates for the enzyme of the conjugate in (2), other constituents for the bioluminescence system, and constituents of a system for the destruction of excess intermediary nucleotide in the soln. Sample contg. target DNA or RNA, preferably ***amplified*** (e.g. by ***polymerase*** ***chain*** ***reaction*** ), is doubly labeled (e.g. during ***amplification*** or using probes) or taken directly and is contacted simultaneously or successively with the support and the enzyme conjugate. Excess aq. soln. (3) is added to the resultant mixt., emitted light is measured, and the amt. of target sequence is detd. using a std. curve. The assay can be done without sepn. and washing steps. A sequence of human papillomavirus in a plasmid was detd. by a sandwich method using 2 oligonucleotides recognizing adjacent regions of the same target DNA strand: one ***immobilized*** on a Sepharose support along with luciferase and oxidoreductase, the other coupled at its 5' end with glucose-6-phosphate dehydrogenase (G6PDH). The support 0.5-1 mg, enzyme conjugate 0.1 mIU, and ***amplified*** sample were incubated simultaneously at 37.degree. for 1-3 h in buffer contg. NaCl 0.15, pH 7.4 phosphate 0.1M, bovine serum albumin 1%, and salmon sperm DNA 10 .mu.g/mL. The quantity of G6PDH bound to the support was measured after addn. of luminescence reactants (0.1M phosphate buffer 100 mL, 1 mg FMN/mL 500, 2% decanol 500, 0.2M NAD 500, 0.6M glucose 6-phosphate 500, 0.6M pyruvate 500, and 5 mg lactate dehydrogenase/mL 1 .mu.L). Under these conditions and after 30 cycles of ***amplification*** , >1000 mol of viral DNA could be detected and the response as a function of amt. of target DNA was linear.

L10 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1988:52009 CAPLUS <<LOGINID::20070605>>
DN 108:52009
TI Sequential bienzyme system asymmetrically ***immobilized*** on a permeable membrane: final product compartmentalization
AU Bardeletti, Gilbert; Coulet, Pierre R.
CS Lab. Genie Enzym., Univ. Claude Bernard-Lyon, Villeurbanne, 69622, Fr.
SO Enzyme and Microbial Technology (1987), 9(11), 652-7
CODEN: EMTED2; ISSN: 0141-0229
DT Journal
LA English
AB Glucoamylase and glucose oxidase were bound to the surface of a ***porous*** membrane. Each of these enzymes was bound onto only 1 side of the membrane. This bienzyme membrane was then placed in a suitably designed diffusion cell. Maltose was chosen as substrate and hydrolyzed to glucose by glucoamylase. Due to the hydrodynamic conditions and the very different vols. of the chambers of the diffusion cell, the cross of glucose through the membrane to reach the opposite compartment was favored. This is attributed to the predominant role of the boundary layer existing for glucoamylase at the enzyme layer-soln. interface. Glucose then acts on the other side of the membrane as a substrate for glucose oxidase. The final product is H2O2, which tends to conc. in the glucose oxidase reaction chamber. Compared with an asym. monoenzyme system previously described, a strong ***amplification*** (80-fold) of the concn. effect occurs. This final product concn. effect is neither dependent on the initial substrate concn. nor on the nature of the substrate itself, since similar results were obtained with polysaccharides of higher mol. wts.

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L1 306749 S (POROUS OR PORES OR MICROCHANNEL# OR (MICRO(W)CHANNEL#))/BI,A
L2 382996 S (AMPLIF? OR PCR OR (POLYMERASE(W)CHAIN(W)REACTION#))/BI,AB
L3 148664 S IMMOBIL?/BI,AB
L4 1134 S L1 AND L2
L5 98 S L3 AND L4
L6 86 S L5 NOT 2007/PY
L7 71 S L6 NOT 2006/PY
L8 49 S L7 NOT 2005/PY
L9 36 S L8 NOT 2004/PY
L10 23 S L9 NOT 2003/PY

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